

Application No. 10/828,953
Docket No. 2003U013.US
Reply to Office Action Dated 10/05/2004

Remarks

Specification

The specification at paragraph [0005] is amended to delete an obvious typographical error.

Claim Amendments

Claims 1 and 12 are amended by adding the phrase "provided that the tetrahydroindenyl is substituted". This embodiment derives from the specification as filed at, for example, paragraph [0014], lines 13-16, wherein it is stated in alternative language that either one or both of the cyclopentadienyl and/or the tetrahydroindenyl is substituted. No new matter is added.

Claim Objections

Claims 7 through 9 were objected to as unclear. The Applicant traverses this, as the phrase, for example, "by from less than 2 %" means that the value, in that case the density, changes by less than 2 %, inclusive. The use of "from" is meant to include the value 2 %, as stating "by less than" would not.

Applicant contends that these claims are clear, as the upper boundaries are, respectively, 2 %, 20, and 12%.

Applicant requests that these objections be withdrawn.

Section 102 Rejections

Claims 1 through 22 were rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, as obvious under 35 U.S.C. § 103(a) over *Muhle et al.* (US 6,180,736). The Applicant traverses this rejection, as the claim as now amended is not fairly disclosed.

The '736 patent discloses a large genus of metallocenes, only one unsubstituted compound of which is demonstrated as affective. The Applicant, on the other hand, claims a narrow sub-genus that is not particularly identified in the '736 patent. In fact, those catalysts that

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are particularly identified in the '736 patent are such that, the tetrahydroindenyl ligands are not substituted. Applicant contends that the present claims are thus allowable, as the claimed invention cannot be "at once envisaged"¹ by one skilled in the art from the '736 patent, and thus not anticipated "without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference"². Stated another way, the disclosure of a large genus does not necessarily anticipate a claim to a narrower specie.

Anticipation of a claim can be found when a prior art reference discloses every limitation of the claimed invention, either explicitly or inherently.³ However, as described by the court in *In re Petering*, anticipation over a single reference cannot be found when one skilled in the art must select portions of teachings within the reference, and those portions are not limited or delineated in a way that is directed to the claimed invention. The situation in *Petering* is perhaps the most analogous to the present situation.

In *Petering*, the claim at issue included the limitation to a chemical structure general to isoalloxazine with the definition

R is an omega-monohydroxyalkyl group containing from two to six carbon atoms inclusive, R(3) and R(4) are members selected from the group consisting of lower-alkyl, lower-alkoxy, amino and a polymethylene group linked to the aromatic ring to form a carbocyclic ring having six carbon atoms, R(2) and R(5) are members selected from the group consisting of hydrogen, lower-alkyl, lower-alkoxy and amino, and wherein R(2), R(3), R(4) and R(5) when taken together include not more than one amino group⁴

The prior art used by the Examiner in a section 102 rejection disclosed a chemical formula general to isoalloxazine, with the description "wherein X, Y, Z, P and R' represent either

¹ MPEP § 2131.02, 2100-75 (Rev. 2 May 2004), citing *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962), finding that the disclosure of a generic chemical structure that is not particularly limited in its substituents does not anticipate a claim to a specie of a chemical compound, but that only the more limited embodiment (describing only 20 compounds) in the same disclosure was adequate for an anticipation rejection.

² *In re Arkley*, 172 USPQ 524, 526, 455 F.2d 586, 587 (CCPA 1972).

³ *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987).

⁴ *In re Petering*, 301 F.2d 676, 677; 133 USPQ 275 (CCPA 1962).

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hydrogen or alkyl radicals, R a side chain containing an OH group.”⁵ In finding that this alone did not support rejection under section 102 of the claimed invention, the *Petering* court stated that

[n]ext we consider the legal effect of the generic and specific descriptions of isoalloxazine structures in the [prior art] patent. The generic formula of [the prior art], “wherein X, Y, Z, P and R’ represent either hydrogen or alkyl radicals, R a side chain containing an OH group,” encompasses a vast number and perhaps even an infinite number of compounds since there is no express limit on the size of the alkyl group or the structure and size of R. Even though appellants’ claimed compounds are encompassed by this broad generic disclosure, we do not think this disclosure by itself describes appellants’ invention, as defined by them in any of the appealed claims, within the meaning of 35 U.S.C. 102(b).⁶

The Applicant’s contend that the present situation in citing the ‘736 patent against the Applicant’s claims is analogous to the situation in *Petering*, and hence, the ‘736 patent does not anticipate under the meaning of section 102.

The ‘736 patent does not support an obviousness rejection under section 103, as the claimed features are not disclosed therein. As well, the ‘736 patent is directed merely at identifying a class of metallocene catalysts having suitable catalytic activity, regardless of the ability to control the properties of the polyethylene resin resulting therefrom. The current inventor is solving the problem of controlling the polymer properties within a small sub-genus of identified catalysts. The Examiner states that the ‘736 patent discloses that “the density . . . may be adjusted simply by varying the comonomer ratio (claim 9)”.⁷ However, a unique feature of Applicant’s invention is that the density *does not vary substantially* when the amount of comonomer is adjusted. Given the unpredictability of the chemical arts,⁸ this is an unexpected result that could not have been deduced from the ‘736 disclosure, especially since the only catalyst that was demonstrated in that disclosure is an unsubstituted metallocene.

⁵ *Id.* at 678.

⁶ *Id.* at 681. (emphasis added). The court did find a more narrowed description that described a much smaller genus that was held to support a rejection of anticipation. See note 1 *supra*.

⁷ Office Action dated October 5, 2004, page 3.

⁸ See MPEP at 2100-151; see also *Spectra Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 3 USPQ2d 1737 (Fed. Cir. 1987) (discussing unpredictable nature of chemical arts).

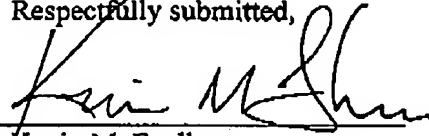
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The Applicant thus requests that these rejections be withdrawn.

It is submitted that the case is in condition for allowance. The Applicant invites the Examiner to telephone the undersigned attorney if there are any other issues outstanding which have not been presented to the Examiner's satisfaction.

10/11/04
Date

Respectfully submitted,



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